

**Instructions
for filling**

THE CIVIL DEFENSE

WATER-STORAGE CONTAINER

August 1962

**DEPT. OF DEFENSE
OFFICE OF CIVIL DEFENSE**

**DEPT. OF HEALTH,
EDUCATION & WELFARE
PUBLIC HEALTH SERVICE**

FILLING INSTRUCTIONS

These instructions are provided to insure that potable water stored in public fallout shelters will be safe for use in emergency. Water storage precautions are stated -- and the sketches and accompanying text show how to handle and fill the Civil Defense Water-Storage Containers. The importance of sanitary procedures must be emphasized throughout all operations.

DESCRIPTION

Components of the Civil Defense Water-Storage Container are a metal drum, with removable lid, 16 inches in diameter and 21 inches high; and a double plastic (polyethylene) bag liner, of 4-mil thickness, with the inner bag having a spout formed at one end. Included with the plastic bags are plastic wire ties for tying off the spout and outer bag.

The drum, with plastic bag liner, has a capacity of 17-1/2 gallons -- and, when filled, weighs about 150 pounds.

Drums are shipped individually (minimum of 10) to approved recipients, and the bag liners will be packed 20 sets to a case. In some instances, bag liners may be unpacked at central receiving points and then sent on to various locations in one or more drums.

PRECAUTIONS

1. Water used to fill the containers must be from a source approved by the State or local Health Department.
2. Sanitary conditions must be maintained at all times in filling the containers. Supervisors must be well aware of the dangers of contamination. All those who work with the containers must maintain good personal hygiene.
 - a. The over-all filling procedure for the community must be under the care of a State or local health department engineer or sanitarian.

- b. No one who has, or is suspected of having, a communicable disease, or being a carrier of such disease, or has an open or infected sore, should be allowed to work with the water containers.
- c. Equipment must be kept clean at all times.
- d. Workers must be particularly careful to have clean hands at the beginning of and during the filling operations.
- e. Contamination of all kinds must be kept away from the water.
- f. When a container is filled, the spout must be closed tightly so that the water can be stored for an indefinite period without danger of contamination.

3. The Civil Defense Water-Storage Container is intended primarily for storage, and is not designed for shipping water. The containers -- particularly the plastic bags -- can be damaged easily if shipped full of water.

- a. The containers should be filled at or near, (within the local area), the shelter where they are to be stored.
- b. There may be some advantage in filling containers at a central location and then moving them to various shelters in the local area. For example, it may be easier to control sanitary conditions. If the containers are filled at one location and moved to another, they should be moved very carefully.

4. The plastic bag liners must be handled carefully to avoid abrasions or punctures -- so there will be no leakage in storage. Do not sharp-crease or double-fold the bags.

FILLING THE CONTAINERS (See first five sketches)

Note: A short length water tube or hose (ordinary garden-hose size), without nozzle, is used for filling the water containers. The tube

or hose must be kept clean. (See figure A). In the event a longer hose must be used, the end of the hose should be fitted with a circular guard made of heavy metal and a shut-off valve should be provided within reach of the person filling the containers. (See figure B).

a. How to start

1. Remove the drum cover. Make sure the inside of the drum is free of foreign matter. Place the liner bag set in the drum, making sure the bag set bottom is against the bottom of the drum. Drape the outer bag down and around the top of the drum. Let spout of inner bag drape over the top of the drum. (See figure C).
2. Flush the hose for 5 minutes before filling the containers.
3. Insert end of a clean water tube or hose, without nozzle, into the bag spout and start filling with water to a depth of about 4 inches. Be careful not to spill water on the drum or into the space between the drum and liner. (See figure D).
4. When there is about 4 inches of water in the bag, stop filling.
5. Add 1 teaspoonful of household, liquid bleach (active ingredients 5.25% sodium hypochlorite; 94.75% inert ingredients). Liquid bleach of this type is found in supermarkets and other stores.

b. Reseat the bag liner

The bottom of the plastic bag liner should now be reseated.

1. Remove the water tube or hose from the spout.
2. Grasp the bag liner firmly at the sides (do not lift by spout), and lift far enough for proper reseating. The bottom seam of the liner should extend along the diameter -- across the center -- of the inside base of drum. Correct positioning will avoid uneven strain on the bag liner when full. (See figure E).

c. Continue filling

1. Reinsert clean water tube or hose in spout -- and continue filling the bag with water.
2. Fill to the water-fill mark on outside of the drum. This mark is about 1 inch from the top of the drum. (See figure F).
3. Remove water tube or hose from the spout.
4. Exhaust air from the bag liner by pressing the top of the inner bag down to water surface.
5. Twist spout, double it back and tie securely with plastic wire provided. (See figure G). (Caution: Do not tie the plastic wire so tightly the spout will be damaged.)
6. Gather the top of the outer bag together and tie off with a wire tie. Replace drum cover.

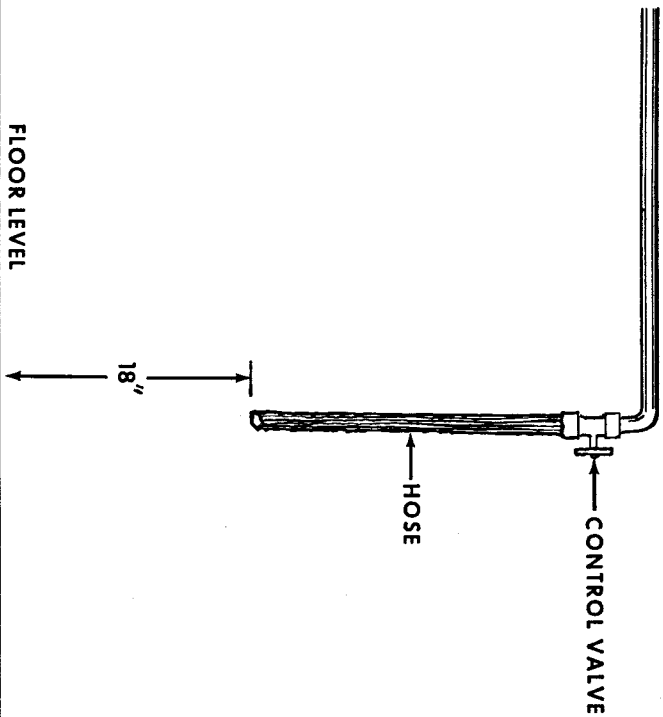


Figure A

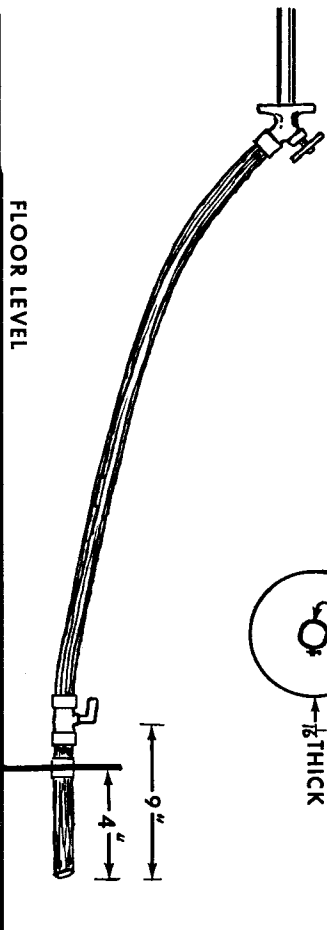
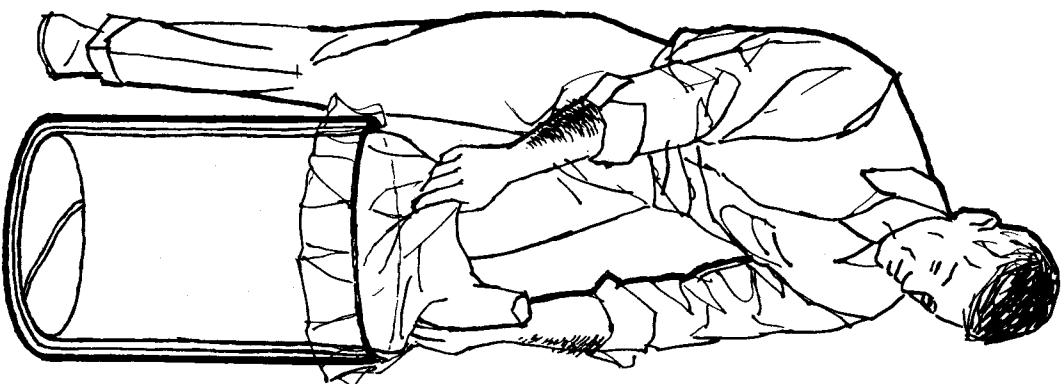


Figure B

ALTERNATE HOSE AND VALVE REQUIREMENTS
FIGURE A IS PREFERABLE



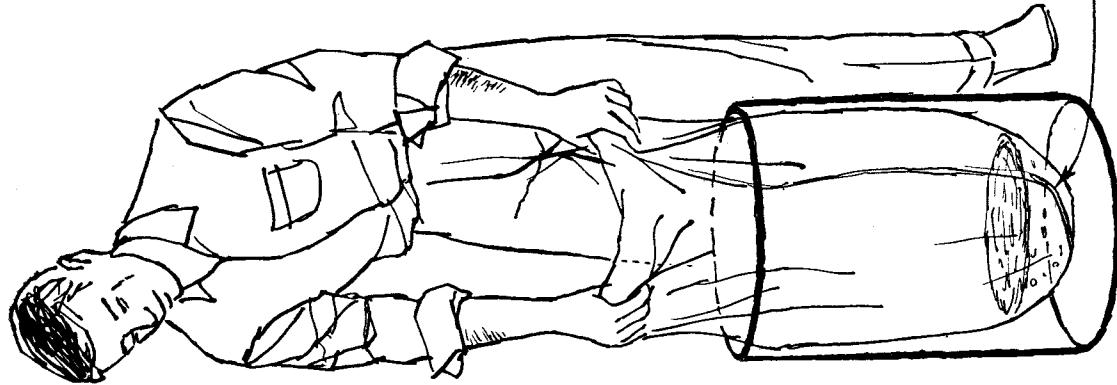
INSERT PLASTIC BAGS SETS IN DRUM BOTTOM
WITH SEAMS OF BAGS SEATED
ACROSS CENTER OF DRUM BASE

Figure C

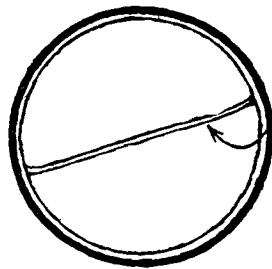


FILL INNER BAG WITH 4 INCHES OF WATER

Figure D

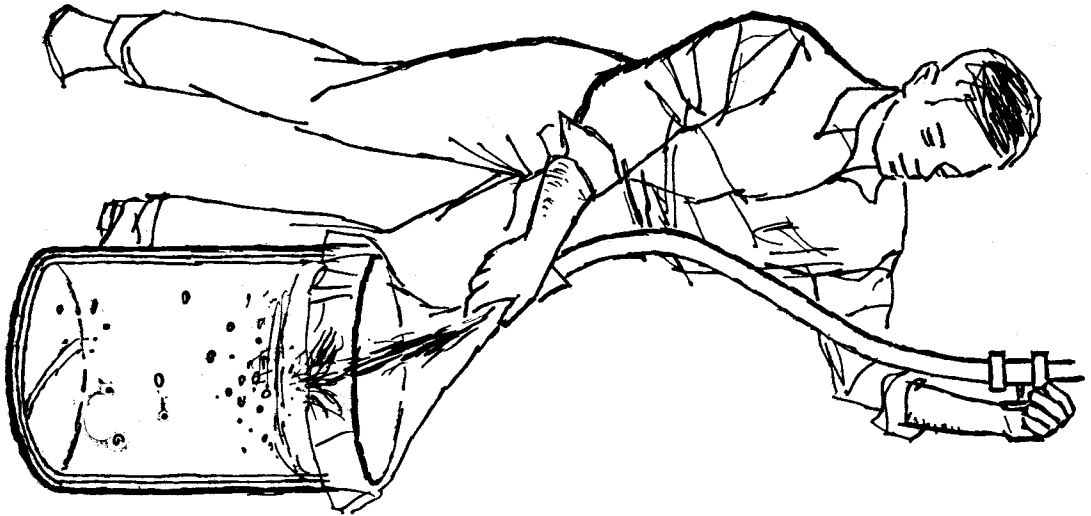


bottom view



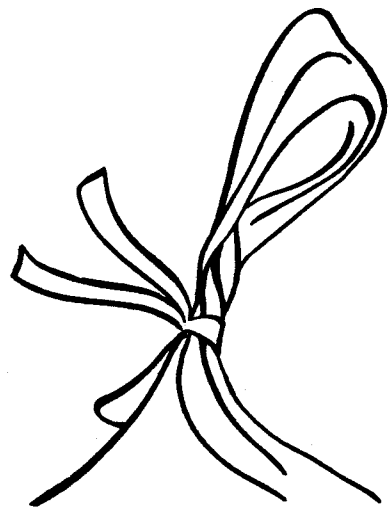
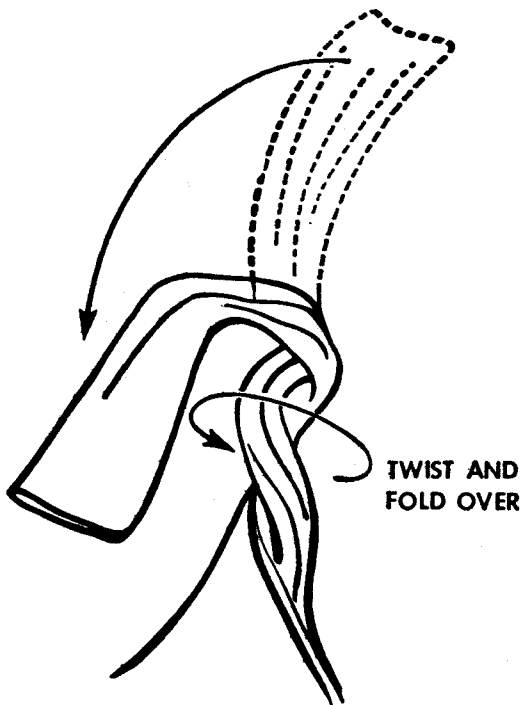
PULL UP TO RESEAL BAGS, CENTER THE BAGS SEAM

Figure E



CONTINUE FILLING--TO THE WATER-FILL LINE
ABOUT 1 INCH FROM TOP OF THE DRUM

Figure F



TIE SPOUT WITH PLASTIC WIRE

SECURING THE SPOUT

Figure G